

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s) :	Mark Jozef Willem Mertens	Examiner: Kurr, Jason Richard
Serial No. :	10/599,630	Group Art Unit: 2614
Filed :	October 4, 2006	Confirmation No.: 2046
For :	AUDIO LEVEL CONTROL	Dated: December 3, 2009

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Commissioner for Patents
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Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL
IN RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF

Dear Sir:

This is an appeal from a Final Office Action dated February 17, 2009 in the above-identified application. This is also a response to the Notice of Non-compliant Appeal Brief dated November 12, 2009. In response to the Notice, a Claims Appendix, Evidence Appendix and Related Proceedings Appendix are included herein. This Brief is not accompanied by the requisite fees set forth in 37 C.F.R. §41.20(b)(2), since these fees were previously paid with the filing of the Appeal Brief.

I. REAL PARTY IN INTEREST

The above-identified application was initially assigned, in its entirety, to Koninklijke Philips Electronics N.V. ("KPENV").

II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's legal representative and/or the assignee of Appellant's interest in the above-identified application are not aware of any related appeals, interferences or judicial proceedings which may be related to, directly affect, or be directly affected by or have a bearing on, any decision by the Board of Patent Appeals and Interferences in this appeal.

III. STATUS OF CLAIMS

The instant application was originally filed with 25 claims of which only one claim of the originally filed claims is still pending, i.e., Claim 16. New Claims 30-53 were added during prosecution. Claims 16, 30-40 and 43-53 stand finally rejected and Claims 41 and 42 stand finally objected as set forth in the Final Office Action dated May 22, 2009 (the "Final Office Action"). These rejected and objected claims are the subject of this appeal. An accurate copy of Claims 16 and 30-53 is provided in the Claims Appendix.

IV. STATUS OF AMENDMENTS

No amendments were submitted by Appellants subsequent to the Final Office Action. A response to the Final Office Action was submitted by Appellants on July 9, 2009. The Examiner issued an Advisory Action dated July 30, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER¹

Independent Claim 16 is directed to a remote control unit for use with a device (1) for

¹ It is respectfully noted that it is not the Appellants' intention that the claimed embodiments of this invention be limited to operation within the example embodiments described in this brief, beyond what is required by the claim language. These examples and their description are provided to facilitate ease of understanding and to comply with the requirements of an appeal brief, without intending that any further interpreted limitations be read into the claims

controlling the sound levels of a group of audio channels having a main channel (MC) and at least one auxiliary channel (AC1, AC2) which can be rendered simultaneously. The device (1) includes user controlled selection means (14, 16) for selecting the main channel (MC), and automatic level adjustment means (12, 13) for adjusting the sound level of the at least one auxiliary channel (AC1, AC2) relative to the main channel (MC). See, e.g., paragraphs 0042-0047 and Figures 1-2 and 4-5 of the published application (US 2007/0177743A1). The remote control unit comprises a first user-operable control device for selecting the main channel (MC); and a second user-operable control device which responds to a user control to toggle among a plurality of pre-set relative sound level ratios between the main channel (MC) and the at least one auxiliary channel (AC1, AC2). See, e.g., paragraphs 0080-0081 and Figures 1-6 of the published application (US 2007/0177743A1).

Independent Claim 32 is directed to a device comprising a first input adapted to receive a first audio signal; a second input adapted to receive a second audio signal; a selection device adapted to receive a user selection signal and in response thereto to select one of the first and second audio signals as a main audio signal; and to select another of the first and second audio signals as an auxiliary audio signal. See, e.g., paragraphs 0049-0052 and Figures 1-2 and 4-5 of the published application (US 2007/0177743A1). The device further comprises an automatic adjustment unit adapted to receive the auxiliary audio signal and to receive an auxiliary level control signal derived from the main audio signal, and in response thereto to automatically adjust a level of the auxiliary audio signal to have a particular ratio with respect to a level of the main audio signal. See, e.g., paragraphs 0051-0053 and Figures 1-2 and 4-5 of the published application (US 2007/0177743A1).

Independent Claim 46 is directed to a method, comprising receiving a first audio signal; receiving a second audio signal; receiving a main level control signal; and receiving a user selection signal identifying a selected one of the first and second audio signal to be a main audio signal, the other of the first and second audio signals being non-selected. See, e.g., paragraphs 0049-0052 and Figures 1-2 and 4-5 of the published application (US 2007/0177743A1). The method further includes, in response to the user selection signal, connecting the selected one of the first and second audio signals to a main audio adjustment unit, and connecting the non-selected one of the first and second audio signals to an auxiliary audio adjustment unit; adjusting a level of the main audio signal by means of the main audio adjustment unit in response to the main level control signal; and automatically adjusting a level of the auxiliary audio signal by means of the auxiliary audio adjustment unit to have a particular ratio with respect to the level of the main audio signal. See, e.g., paragraphs 0051-0053 and Figures 1-2 and 4-5 of the published application (US 2007/0177743A1).

The Examiner has stated that dependent Claims 41 and 42 contain allowable subject matter. Claim 41 is dependent from dependent Claim 40 which is dependent from independent Claim 32. Claim 42 is dependent from dependent Claim 41. Claim 41 further defines the level control unit as being adapted to receive the auxiliary audio signal and to receive the auxiliary level control signal derived from the main audio signal. The level control unit comprises a division unit adapted to determine an actual ratio of the level of the auxiliary audio signal and the level of the main audio signal; and a comparison unit for comparing the actual ratio to the particular ratio and in response thereto to provide the gain control signal for controlling the gain of the adjustable gain amplifier to make the actual ratio equal to the particular ratio.

Claim 42 further recites the device as defined by Claim 41 further comprising a processor adapted to determine the level of the auxiliary audio signal and the level of the main audio signal. The processor is also adapted to determine the level of the auxiliary audio signal by calculating a signal power of the auxiliary audio signal over a set time period. The processor is further adapted to determine the level of the main audio signal by calculating a signal power of the main audio signal over the set time period.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following issues are on appeal:

- A) The rejection of Claims 32, 34-37, 46-48 and 51 under 35 U.S.C. §102(e) as being anticipated over U.S. Patent No. 7,349,548 to Wang (“Wang”);
- B) The rejection of Claims 16 and 30-31 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 5,054,077 to Suzuki (“Suzuki”);
- C) The rejection of Claims 33 and 43 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 4,464,781 to Kaneko (“Kaneko”);
- D) The rejection of Claims 38 and 49 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 6,311,155 to Vaudrey et al. (“Vaudrey et al.”);
- E) The rejection of Claims 39, 50 and 52 under 35 U.S.C. §103(a) as being unpatentable over Wang;
- F) The rejection of Claim 40 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 6,965,676 to Allred (“Allred”);
- G) The rejection of Claims 44 and 53 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 5,048,091 to Sato et al. (“Sato et al.”); and

H) The rejection of Claim 45 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of U.S. Patent No. 7,373,650 to Rodriguez et al. (“Rodriguez et al.”).

VII. ARGUMENT

In the Final Office Action, Claims 32, 34-37, 46-48 and 51 were rejected under 35 U.S.C. 102(e) as being anticipated by Wang (U.S. Patent No. 7,349,548). Appellant respectfully traverses this rejection.

Independent Claim 32 recites, inter alia, as follows:

“A device, comprising:

...

an automatic adjustment unit adapted to receive the auxiliary audio signal and to receive an auxiliary level control signal derived from the main audio signal, and in response thereto to automatically adjust a level of the auxiliary audio signal to have a particular ratio with respect to a level of the main audio signal.”(Emphasis added.)

It is respectfully submitted that Wang fails to disclose or suggest “... automatically adjust a level of the auxiliary audio signal to have a particular ratio with respect to a level of the main audio signal”, as recited by independent Claim 1.

As understood by Appellant, Wang is directed to an electronic apparatus including a selection part through which one of the sound input channels is selected, and a controller controlling the individual volume controllers to make the selected sound input channel have a normal volume level and to lower the output volume of unselected input channels below a **predetermined volume level**. (See e.g., Abstract) Wang discloses the storage of a **setup volume level which is previously set up by the user** and employed as the output level of the unselected sound input channels. (Column 4 lines 42-45) When the user selects one input channel through the selection part, the

microprocessor makes the selected input channel have a normal volume level and lowers the output volume levels of the unselected input channels below a predetermined volume level, where the lowered output volume levels of the unselected input channels are the setup volume levels stored in memory. (Column 4 lines 56-65) In other words, Wang teaches that the user predetermines the output volume level of the unselected inputs by storing a setup volume level in memory.

In contrast, in the present disclosure, after the user selects a main audio signal and an auxiliary signal the automatic adjustment unit receives the auxiliary signal and an auxiliary level control signal derived from the main audio signal and automatically adjusts the level of the auxiliary audio signal to have a particular ratio with respect to a level of the main audio signal. Here the volume level of the auxiliary audio signal is not predetermined or stored in memory but rather is automatically calculated as a ratio of the volume level of the main audio signal. If, for example, the user were to adjust the volume level of the main audio signal, the volume level of the auxiliary audio signal would be adjusted automatically according to the selected ratio rather than staying at a predetermined setup volume level. Claim 32 is patently distinguishable over the teachings of Wang. There is no teaching or suggestion in Wang of automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claim 32.

Accordingly, withdrawal of the rejection under 35 U.S.C. §102(e) with respect to Claim 32 and allowance thereof is respectfully requested.

It is respectfully submitted that independent Claim 46 recites similar limitations as those of independent Claim 32.

Accordingly, for at least the same reasons presented above for Claim 32, withdrawal of the

rejection under 35 U.S.C. §102(e) with respect to Claim 46 and allowance thereof are respectfully requested.

Claims 34-37, 47-48 and 51 depend, directly or indirectly, from independent Claims 32 and 46 and therefore include the claim limitations of their respective independent claims. Accordingly, for at least the same reasons given above for the allowance of Claims 32 and 46, the withdrawal of the rejection under 35 U.S.C. §102(e) with respect to dependent Claims 34-37, 47-48 and 51 and allowance thereof are respectfully requested.

Claims 16 and 30-31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Suzuki (U.S. Patent No. 5,054,077) and in further view of Weber (U.S. 6,396,549).

Claim 16 recites, *inter alia*, as follows:

“a second user-operable control device which responds to a user control to **toggle among a plurality of pre-set relative sound level ratios** between the main channel (MC) and the at least one auxiliary channel (AC1).”(Emphasis added.)

At the bottom of page 5 of the present Office Action, the Examiner admits that Wang does not disclose expressly “a second user-operable control device which responds to a user control toggle among a plurality of pre-set relative sound level ratios between the main channel(MC) and the at least one auxiliary channel (AC1).” The Examiner relied on Suzuki to cure such deficiencies.

As understood by Appellant, Suzuki teaches a fader device used for an audio mixer and includes fader operators capable of being operated both manually and by a motor individually for each of plural channels. (See e.g., Abstract) Specifically Suzuki teaches a fader device in which absolute amounts of fading in the respective channels in the group operation mode can be readily

recognized. (Column 1 lines 67-68, Column 2 lines 1-2) The fader can switch between single and group mode. (Fig. 1 #54) When one fader in the group has been operated the position of the fader is detected and the amount of change is computed. (Column 4 lines 11-16) When in group mode this change value is then used to displace the other faders in that group by the same amount. (Column 4 lines 5-24) In other words, Suzuki teaches the ability to group channels such that the adjustment of one channel automatically adjusts the other grouped channels by the same amount.

In contrast, in the present disclosure, the auxiliary channel is adjusted based the sound level ratio between the main channel and auxiliary channel sound levels. The user selects the desired ratio to be used through a control toggle and the ratio is applied to adjust the auxiliary channel based on the main channel sound level value. There is no teaching or suggestion in Suzuki that a user can toggle among a plurality of pre-set relative sound level ratios as required by Appellant's Claim 16.

Additionally, Weber does not address the deficiencies of Wang and Suzuki with respect to Claim 16. As understood by Appellant, Weber deals with a remote control for use with a volume control device. There is no teaching or suggestion in Weber that a user can toggle among a plurality of pre-set relative sound level ratios as required by Appellant's Claim 16.

Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claim 16 and allowance thereof are respectfully requested.

Claims 30 and 31 depend directly from independent Claim 16 and therefore include the claim limitations found in Claim 16. Claims 30 and 31 are allowable over the prior art of record for at least the same reasons presented above for the patentability of Claim 16. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) and allowance thereof are respectfully requested.

Claims 33 and 43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Kaneko (U.S. Patent No. 4,464,781).

Claims 33 and 43 depend directly from independent Claim 32 and therefore include the claim limitations found in Claim 32. Claims 33 and 43 are allowable over prior art of record for at least the same reasons presented above for the patentability of Claim 32. Additionally, Kaneko fails to address the deficiencies of Wang with respect to independent Claim 32. As understood by Appellant, Kaneko is directed to an equalizer apparatus for audio equipment capable of selecting between a 2-speaker system and a 4-speaker system. (See e.g., Abstract) Kaneko fails to teach or suggest automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claim 32. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 33 and 43 and allowance thereof are respectfully requested.

Claims 38 and 49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Vaudrey et al. (U.S. Patent No. 6,311,155).

Claims 38 and 49 depend indirectly from independent Claims 32 and 46 and therefore include the claim limitations of their respective independent claims. Claims 38 and 49 are allowable over the prior art of record for at least the same reasons presented above for the patentability of Claims 32 and 46. Additionally, Vaudrey et al. fails to address the deficiencies of Wang with respect to Claims 32 and 46. As understood by Appellant, Vaudrey et al. is directed to a method for providing multiple users with voice-to-remaining audio adjustment capabilities including the reception of multiple decoders with voice and remaining audio simultaneously. (See e.g., Abstract) Vaudrey et al. fails to teach or suggest automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claims 32 and 46. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 38 and 49 and allowance thereof are respectfully requested.

Claims 39, 50 and 52 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548).

Claims 39, 50 and 52 depend indirectly from independent Claims 32 and 46 and therefore include the claim limitations of their respective independent claims. Claims 39, 50 and 52 are allowable over the prior art of record for at least the same reasons presented above for the patentability of Claims 32 and 46. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 39, 50 and 52 and allowance thereof are respectfully requested.

Claim 40 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Allred (U.S. Patent No. 6,965,676).

Claim 40 depends directly from independent Claim 32 and therefore includes the claim limitations found in Claim 32. Claim 40 is allowable over the prior art of record for at least the same reasons presented above for the patentability of Claim 32. Additionally, Allred fails to address the deficiencies of Wang with respect to Claim 32. As understood by Appellant, Allred is directed to an audio compensation system for producing a sound compensated output signal. (See e.g., Abstract) Allred fails to teach or suggest automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claim 32. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claim 40 and allowance thereof are respectfully requested.

Claims 44 and 53 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Sato et al. (U.S. Patent No. 5,048,091).

Claims 44 and 53 depend, directly or indirectly, from independent Claims 32 and 46 and therefore include the claim limitations of their respective independent claims. Claims 44 and 53 are allowable over the prior art of record for at least the same reasons presented above for the

patentability of Claims 32 and 46. Additionally, Sato et al. fails to address the deficiencies of Wang with respect to Claims 32 and 46. As understood by Appellant, Sato et al. is directed to a talker speech level control circuit for controlling the level of an electric signal converted from a talker speech. (See e.g., Abstract) Sato et al. fails to teach or suggest automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claims 32 and 46. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 44 and 53 and allowance thereof are respectfully requested.

Claim 45 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 7,349,548) in view of Rodriguez et al. (U.S. Patent No. 7,373,650).

Claim 45 depends directly from independent Claim 32 and therefore includes the claim limitations found in Claim 32. Claim 45 is allowable over the prior art of record for at least the same reasons presented above for the patentability of Claim 32. Additionally, Rodriguez et al. fails to address the deficiencies of Wang with respect to Claim 32. As understood by Appellant, Rodriguez et al. is directed to a Digital Home Communication Terminal including a plurality of tuners, each of which can select one of a plurality of transmission channels provided by a Digital Broadband Delivery System. (See e.g., Abstract) Rodriguez et al. fails to teach or suggest automatically adjusting the level of an auxiliary audio signal to have a particular ratio with respect to the level of the main audio signal, as required by Appellant's Claim 32. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claim 45 and allowance thereof are respectfully requested.

Dependent Claims 41 and 42 Contain Allowable Subject Matter

The Examiner has stated that dependent Claims 41 and 42 contain allowable subject matter but are objected to as being dependent on a rejected base claim. Appellant thanks the Examiner for

stating that Claims 41 and 42 contain allowable subject matter and respectfully submits that Claims 41 and 42 are allowable as indirectly dependent claims of independent Claim 32 for at least the same reasons presented above for the patentability of Claim 32.

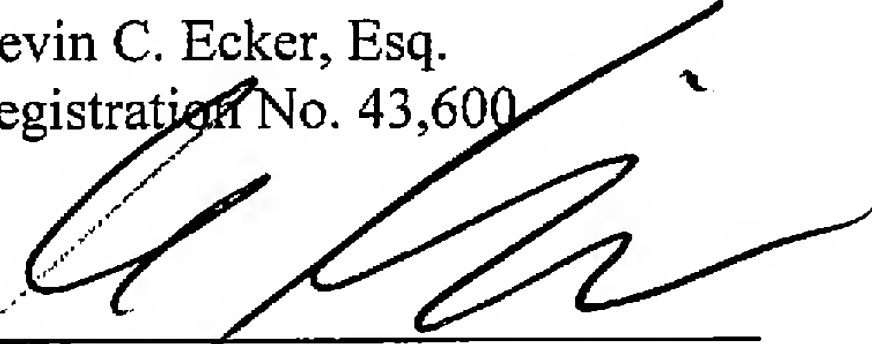
The prior art does not disclose or suggest the features recited by dependent Claims 41 and 42. Specifically, the prior art does not disclose or suggest a level control unit as being adapted to receive the auxiliary audio signal and to receive the auxiliary level control signal derived from the main audio signal. The level control unit comprising a division unit adapted to determine an actual ratio of the level of the auxiliary audio signal and the level of the main audio signal; and a comparison unit for comparing the actual ratio to the particular ratio and in response thereto to provide the gain control signal for controlling the gain of the adjustable gain amplifier to make the actual ratio equal to the particular ratio.

The prior art also does not disclose or suggest the device as defined by Claim 41 further comprising a processor adapted to determine the level of the auxiliary audio signal and the level of the main audio signal. The processor is also adapted to determine the level of the auxiliary audio signal by calculating a signal power of the auxiliary audio signal over a set time period. The processor is further adapted to determine the level of the main audio signal by calculating a signal power of the main audio signal over the set time period.

In view of the foregoing arguments, Appellant respectfully submits that independent Claims 16, 32 and 46 and their corresponding dependent claims are patentable over the prior art of record, taken alone or in any proper combination. Accordingly, Appellant respectfully requests allowance of all the pending claims, namely, Claims 16, 30-40 and 43-53.

Respectfully submitted,

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CLAIMS APPENDIX

1-15. (Canceled)

16. A remote control unit for use with the a device for controlling the sound levels of a group of audio channels having a main channel (MC) and at least one auxiliary channel (AC1) which can be rendered simultaneously, the device including user controlled selection means for selecting the main channel, and automatic level adjustment means for adjusting the sound level of the at least one auxiliary channel relative to the main channel, the remote control unit comprising:

a first user-operable control device for selecting the main channel (MC); and

a second user-operable control device which responds to a user control to toggle among a plurality of pre-set relative sound level ratios between the main channel (MC) and the at least one auxiliary channel (AC1).

17-29. (Canceled)

30. The remote control unit of claim 16, wherein the second user-operable control device is a toggle stick configured such that when a user moves the toggle stick in a first direction, the device switches to a one of the plurality of pre-set relative sound level ratios that is greater than a pre-set relative sound level ratio that was selected prior to moving the toggle stick in the first direction, and when the user moves the toggle stick in a second direction opposite the first direction, the device switches to a one of the plurality of pre-set relative sound level ratios that is less than a pre-set relative sound level ratio that was selected prior to moving the toggle stick in the second direction.

31. The remote control unit of claim 16, wherein the second user-operable control device is a toggle stick configured such that when a user moves the toggle stick, the device temporarily selects a new one of the plurality of pre-set relative sound level ratios that has a different value compared to a pre-set relative sound level ratio that was selected prior to moving

the toggle stick, and after a fixed period of time, automatically selects again the pre-set relative sound level ratio that was selected prior to moving the toggle stick.

32. A device, comprising:
a first input adapted to receive a first audio signal;
a second input adapted to receive a second audio signal;
a selection device adapted to receive a user selection signal and in response thereto to select one of the first and second audio signals as a main audio signal; and to select another of the first and second audio signals as an auxiliary audio signal; and
an automatic adjustment unit adapted to receive the auxiliary audio signal and to receive an auxiliary level control signal derived from the main audio signal, and in response thereto to automatically adjust a level of the auxiliary audio signal to have a particular ratio with respect to a level of the main audio signal.

33. The device of claim 32, wherein the selection device comprises:
first and second inputs adapted to receive the first and second audio signals, respectively;
a first output adapted to output the main audio signal;
a second output adapted to output the auxiliary audio signal; and
a switching device adapted, in response to the user selection signal, to selectively connect the first input to one of the first and second outputs, and to selectively connect the second input to another one of the first and second outputs.

34. The device of claim 32, further comprising a main audio adjustment unit adapted to receive a main level control signal and in response thereto, to adjust the level of the main audio signal.

35. The device of claim 34, and wherein the selection device comprises:
a first input adapted to receive an output of the main audio adjustment unit;
a second input adapted to receive an output of the auxiliary audio adjustment unit;
a third input adapted to receive the main level control signal; and

a fourth input adapted to receive the user selection signal,
wherein in response to the user selection signal, the selection device supplies the auxiliary level control signal as a control input to the auxiliary audio adjustment unit, and supplies the main level control signal as a control input to the main audio adjustment unit.

36. The device of claim 32, wherein the particular ratio is stored in a memory of the device.

37. The device of claim 36, wherein the memory stores a plurality of ratios, and the device selects one of the ratios to be the particular ratio.

38. The device of claim 37, wherein the device selects one of the ratios to be the particular ratio in response to metadata that identifies a type of audio content included in at least one of the main audio signal and the auxiliary audio signal.

39. The device of claim 37, wherein the device determines a frequency spectrum characteristic of at least one of the main audio signal and the auxiliary audio signal and in response thereto selects one of the ratios to be the particular ratio.

40. The device of claim 32, wherein the automatic adjustment unit comprises:
a level control unit; and
an adjustable gain amplifier adapted to amplify the auxiliary audio signal,
wherein the level control unit is adapted to provide a gain control signal for controlling a gain of the adjustable gain amplifier.

41. The device of claim 40, wherein the level control unit is adapted to receive the auxiliary audio signal and to receive the auxiliary level control signal derived from the main audio signal, the level control unit comprising:

a division unit adapted to determine an actual ratio of the level of the auxiliary audio signal and the level of the main audio signal; and

a comparison unit for comparing the actual ratio to the particular ratio and in response thereto to provide the gain control signal for controlling the gain of the adjustable gain amplifier to make the actual ratio equal to the particular ratio.

42. The device of claim 41, further comprising a processor adapted to determine the level of the auxiliary audio signal and the level of the main audio signal, wherein the processor is adapted to determine the level of the auxiliary audio signal by calculating a signal power of the auxiliary audio signal over a set time period, and wherein the processor is adapted to determine the level of the main audio signal by calculating a signal power of the main audio signal over the set time period.

43. The device of claim 32, further comprising:
a first output for outputting the main audio signal to a first transducer; and
a second output for outputting the auxiliary audio signal to a second transducer separate and spaced apart from the first transducer.

44. The device of claim 32, wherein the automatic adjustment unit is adapted to change the particular ratio from a first value to a second value temporarily in response to a characteristic being present in audio content included in at least one of the main audio signal and the auxiliary audio signal, and automatically changing the particular ratio back to the first value when the characteristic is no longer present in the audio content.

45. The device of claim 32, further comprising a video display screen, wherein the video display screen is adapted to be divided into at least a first part for displaying a first video program associated with the first audio signal, and a second part for displaying a second video program associated with the second audio signal

46. A method, comprising:
receiving a first audio signal;
receiving a second audio signal;

receiving a main level control signal;

receiving a user selection signal identifying a selected one of the first and second audio signal to be a main audio signal, the other of the first and second audio signals being non-selected;

in response to the user selection signal, connecting the selected one of the first and second audio signals to a main audio adjustment unit, and connecting the non-selected one of the first and second audio signals to an auxiliary audio adjustment unit;

adjusting a level of the main audio signal by means of the main audio adjustment unit in response to the main level control signal; and

automatically adjusting a level of the auxiliary audio signal by means of the auxiliary audio adjustment unit to have a particular ratio with respect to the level of the main audio signal.

47. The method of claim 46, further comprising retrieving the particular ratio from a memory device.

48. The method of claim 47, further comprising:

storing a plurality of ratios in the memory device; and

selecting one of the ratios to be the particular ratio.

49. The method of claim 48, wherein selecting one of the ratios to be the particular ratio comprises:

receiving metadata that identifies a type of audio content included in at least one of the main audio signal and the auxiliary audio signal; and

selecting the particular ratio in response to the metadata.

50. The method of claim 48, wherein selecting one of the ratios to be the particular ratio comprises:

determining a frequency spectrum characteristic of at least one of the main audio signal and the auxiliary audio signal; and

selecting the particular ratio in response to the determined frequency spectrum

characteristic.

51. The method of claim 46, further comprising:
determining an actual ratio of the level of the auxiliary audio signal and the level of the main audio signal; and
comparing the actual ratio to the particular ratio; and
controlling the gain of an adjustable gain amplifier in the auxiliary audio adjustment unit to make the actual ratio equal to the particular ratio.

52. The method of claim 51, further comprising:
calculating a signal power of the auxiliary audio signal over a set time period; and
calculating a signal power of the main audio signal over the set time period.

53. The method of claim 47, further comprising:
changing the particular ratio from a first value to a second value temporarily in response to a characteristic being present in audio content included in at least one of the main audio signal and the auxiliary audio signal; and
automatically changing the particular ratio back to the first value when the characteristic is no longer present in the audio content.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None